

REMARKS

This is in response to the Office Action dated October 18, 2007. Claims 1-4, 7-10 and 19-23 are pending.

Claim 1 stands rejected under Section 103(a) as being allegedly unpatentable over Tomita in view of Gaul. This Section 103(a) rejection is respectfully traversed.

Claim 1 requires “multiple *electrically conductive through electrodes* formed in a region within the electrode pads, wherein at least one type of the through electrodes is a non-contact through electrode of *electrically conductive material* that is not electrically connected to [[an]] any electrode pad of the semiconductor chip in which the non-contact through electrode is formed.” In particular, claim 1 has been amended to clarify that the non-contact through electrode is made of *electrically conductive material*.

Tomita fails to disclose or suggest the above subject matter of claim 1. Moreover, Gaul (relied on by the Office Action in this respect) also fails to disclose or suggest this because Gaul’s via 344 is of *optically* conductive material such as fiber optic material – but not electrically conductive (see Gaul at col. 10, lines 43-55). The fiber optic material Gaul uses to fill via 344 is not electrically conductive. Thus, even the alleged combination fails to meet the invention of claim 1.

An optically conductive via (as in Gaul), if serving to bridge a semiconductor chip in an upper layer and another chip in a lower layer, requires an empty space between the optically conductive via and the light emitting and receiving sections in the upper and lower layers. The space between the chips cannot be filled with, for example, connection reinforcing resin. In addition, no electrically conductive sheet, as an example, can be used to connect the chips.

In contrast with Gaul's optically conductive via, in the case of electrically conductive through electrodes serving to bridge semiconductor chips, the electrodes are physically connected. This allows the filling of the space between the chips with, for example, reinforcing resin. An electrically conductive sheet, for example, may also be used to connect the chips. Therefore, the "electrically conductive through electrode(s)" provides additional freedom and is highly beneficial compared to the optically conductive via of the cited art. Moreover, optically conductive vias are made of different material than electrically conductive via and therefore need to be fabricated separately, adding to manufacturing cost and complexity. The above emphasizes significant differences between optically conductive vias of the cited art, and electrically conductive through electrodes of claim 1.

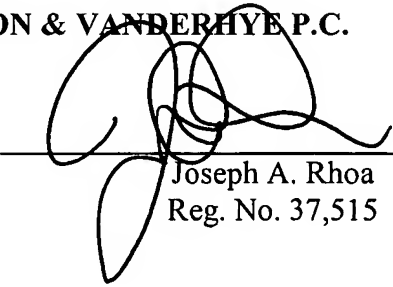
Claim 20 defines over the cited art in a similar manner.

It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance.

Respectfully submitted,

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